



## Seed Connect

A monthly newsletter of Federation of Seed Industry of India



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The Indian seed industry is INR 18,000 crore and is constantly growing. Looking at the country's well developed seed industry and expertise in the sector, it has all the potential to become a global hub for seed export. Currently, the seed export by India is less than ₹1,000 crore per annum and the annual global seed trade is \$14 billion (INR 10,460 crore). Therefore, India has a potential to capture a 10 per cent share which is \$1.4 billion or INR 747 crore by 2028.

Seed companies supply parent seed and technical advice to farmers and buy back the produced seed in a closed loop system backed by contracts. Banks too find it secure to extend loans to seed growers because of the buyback arrangements. Owing to the benefits enjoyed out of seed production, it is therefore profitable for the farmers than producing regular commercial crops.

In a recent article Mr Ram Kaundinya, Director General of FSII in The Hindu Business Line has pointed out three categories of seed export where if conducive policy support is provided can be a thrust to develop a robust seed export industry.

**Custom Production:** A company located outside India which gives production orders to an Indian seed company and supplies parent seed for production in India. The Indian company exports the production back to them. This will be possible if varieties for custom production are exempted from registration, which will be mandatory under the new Seed Act, as they are meant only for export. South Africa and some other countries undertake custom production of GM seeds. India too should have a special category of approval for such GM seeds by GEAC with minimum data requirements. To encourage custom production, India need to provide IP protection for parent seed that is coming into the country for custom production purposes. This custom seed production will not happen unless this assurance is given to the company ordering the production.

**Export-oriented production:** These are varieties developed in India by domestic companies purely for export. These varieties can go to other tropical markets globally. Such seed movement from India will require approval from the National Biodiversity Authority which should be ensured in a time-bound fashion and without delays. In addition, export formalities

and documentation should be smooth and quick. There is a great opportunity to develop external markets for export of vegetables seeds developed in India.

**For both markets:** These are varieties developed in India or outside for both domestic sales and exports. They fall into the regular category of varieties that need mandatory registration under the new Seed Act. The only support needed here is the time bound approval process from NBA for export of Indian seed varieties.

Given the varied agro-climatic conditions coupled with seed production expertise, seed quality management systems and the necessary infrastructure, India can exploit this opportunity similar to other countries like Chile, Argentina and South Africa.

We have also covered several important developments on agriculture across India, globally and in the area of research in this newsletter. We hope you find it a good read!



**Shivendra Bajaj**  
**Executive Director**  
**Federation of Seed Industry of India**

## News from India

### [PM Modi reviews progress of agricultural research, education in India](#)

(The Times of India)

PM Modi pitched for promoting start-ups and agri-entrepreneurs to ensure innovation and use of technology in farming and allied sectors. He further appreciated efforts towards developing varieties focusing on specific requirements of agro-climatic zones and exhorted the need for developing forward and backward linkages to assure better returns to farmers. A direction has been provided towards ease of access to farm equipment and transport facility from field to markets.

### [Locust swarms: Centre takes various measures to prevent crop losses](#)

(The New Indian Express)

The Centre has taken various steps to control locust swarms and carried out operations in over 1.5 lakh hectares area since April 11 to prevent crop losses. Starting from April 11 till July 9, control operations have been done in 1,51,269 hectares area in Rajasthan, Madhya Pradesh, Punjab, Gujarat, Uttar Pradesh and Haryana by Locust Circle Offices (LCOs).

### [India can become a hub for seed exports](#)

(The Hindu Business Line)

India has achieved considerable expertise in seed production. The Indian seed industry is worth ₹18,000 crore and growing. It has established seed production villages through decades of training and capacity building among seed-growing farmers in these villages. Seed production is more profitable for the farmers than producing a regular commercial crop. Seed companies supply parent seed and technical advice to farmers and buy back the produced seed in a closed loop system backed by contracts. Banks find it secure to extend loans to seed growers because of the buyback arrangements.

### [Indian economy set for strong farm-led revival, says Finance Minister Nirmala Sitharaman](#)

(The Economic Times)

The Indian economy is set for a strong revival on the back of agriculture and allied sectors that are boosting the rural sector, finance minister Nirmala Sitharaman said. The government is closely monitoring the economy and is open to further interventions if warranted. Activities related to the rural economy, including tractor sales, agricultural tool sales and logistics related to the food sector among others were “all up and about”. Close synchronisation among the financial sector, regulators and monitoring of indicators could drive the recovery trend. If they all work together, very good strong recovery is only there for us.

### [Crop Diversification and Agriculture Incentives Required to Limit Import of Palm Oil to India](#)

(Grain Mart)

The Indian government promotes the domestic production of oilseeds to cut the country's import dependence: crop diversification and agriculture incentives required to limit the import of palm oil to India. Indian government encourages farmers to increase the area under cultivation of oilseeds to reduce dependence on imported palm oil. Currently, 70% of India's demand for edible oil is met by imported oil. It introduces the majority of palm oil from Indonesia, Malaysia, and relies on Argentina, Brazil, Ukraine, and Russia for soybean and sunflower oil. The country has a requirement of 25 million tonnes of edible oil. There is a need to increase the local production from 7.5 million tonnes to 12 million tonnes to bring down imports to at least 45% of the consumption basket. India resumed the purchase of palm oil from Malaysia after a four-month break amid diplomatic tensions.

### [After vigorous monsoon rains, crop planting gathers pace in India](#)

(Hindustan Times)

Indian farmers have planted 12 million hectares with summer-sown rice, preliminary farm ministry data for this year showed, up 25% from last year as robust monsoon rains encouraged the expansion of acreage. Buoyed by the plentiful rains, rice farmers are likely to harvest a record crop and step up overseas sales from the world's biggest exporter of the grain. Farmers start planting rice, corn, cotton, soybeans, sugarcane and peanuts among other crops from June 1, when monsoon rains reach India. Nearly half of India's farmland lacks irrigation and planting usually lasts through July.

### [Policymakers still talk of 'food security', it's time to plan for 'nutritional self-reliance'](#)

(The Indian Express)

First, forecast nutrition requirement for the year 2050, for by then, the population and the economy would have stabilised. Second, draw area production plans for animal husbandry and to grow crops to try and meet India's nutritional requirement considering agroecological zones and the changing climate. The aim should be to figure out a suitable basket of crops for each area. Third, based on these area production plans, only incentivise the identified crops and practices in each region by designing a risk and price support strategy for such crops, while allowing farmers the freedom to grow what they want.

### [Farmers using cash scheme well: Study](#)

(Hindustan Times)

A study of the impact of PM-KISAN, the Modi government's income transfer scheme for farmers, has found that poor cultivators don't squander the free money they receive, but invest it “efficiently” in modern farm technologies, apart from education and health. However, the extent to which farmers were likely to invest the free cash in agriculture was influenced by the availability of farm knowledge sessions imparted by the country's network of institutions called Krishi Vigyan Kendras (KVK),

technically called agricultural extension services, the study found. How farmers utilised the money also depended on the very timing of cash release, according to the study, which is part of a larger project of the Indian Council of Agricultural Research (ICAR) and the International Food Policy Research Institute (IFPRI).

### [Positive trends are imminent in the Indian agricultural sector](#)

(The Hindu Business Line)

Changes in regulation through three important ordinances will persuade farmers and the private sector to invest in the post-harvest space and power the agri-market engine. The din created in celebrating our democratic freedoms generates not just myriad expert views on every subject, but most times also drowns out positive developments. The positive potential of three recent landmark ordinances should not be lost sight of in this din. The remit of this article is to focus on big picture — trends in Indian agriculture and the direction required to realise the potential of our farmers and farming.

### [India needs to leverage performance of farm sector to push growth: Ex-RBI Governor Subbarao](#)

(The Financial Express)

Former Reserve Bank Governor D Subbarao said the government needs to build on “some silver linings” in the farm sector, driven by the prospect of a favourable monsoon, to speed up the economic recovery. The rural economy is doing slightly better than the urban economy which is still grappling with COVID-19. Rural economy, which accounts for 65 per cent of population and 25 per cent of GDP, is actually proven to be a buffer because of expanded MGNREGA spending. Subbarao further said that spendings under the Pradhan Mantri Garib Kalyan Yojana (PMGKY) and procurement of agri produce by the Food corporation of India (FCI) have put money in the hands of farmers.

### [Govt on track to doubling farmers' income by 2024: Agriculture ministry](#)

(Live Mint)

The government is on track to achieving the target of doubling farmers' income by 2024 and recent farm reforms, including setting up of a ₹1 lakh crore agri-infra fund, are steps in that direction. According to Ashok Dalwai, CEO of the National Rainfed Area Authority under the agriculture ministry, the recent reforms, including three ordinances to provide barrier-free trading platforms to farmers, are aimed at addressing the post-production challenges and ensuring better returns to farmers.

### [Chhattisgarh govt wants withdrawal of ordinance on farm produce trade](#)

(Hindustan Times)

Chhattisgarh chief minister Bhupesh Baghel has stated in a letter to the PM that the ordinance is against the agrarian community's interest and has pleaded for its withdrawal at the earliest. The CM wrote to the PM, claiming the ordinance would reduce employment opportunities and is at odds with the country's federal structure and the welfare state model. He further said that Chhattisgarh is an agriculture-dependent state and 70% of its population is engaged in farming and allied activities. Baghel stated that significant progress has been made in the production of paddy, maize, sugarcane, and soybean through the advanced technology, quality seeds, and various schemes of the state government that sought to safeguard farmers' interest.

### [Sustainable agriculture is fundamental to food security, need to bring seed diversity back: India](#)

(The Financial Express)

Sustainable agriculture is fundamental to food security, India has said at a high-level UN session, and emphasised the need to bring seed diversity back as shift by farmers from local varieties to genetically uniform, high-yielding breeds has reduced the ability of crops to survive when faced with challenges. India joined Chile and the Food and Agriculture Organisation of the UN (FAO) to co-host the High-Level Political Forum side-event 'On the road to the International Year of Fruits and Vegetables 2021: Highlighting health and nutritional benefits through sustainable production and consumption of fruits and vegetables'. Emphasising the importance of seed diversity, India's Deputy Permanent Representative to the UN Ambassador K Nagaraj Naidu said 75 per cent of the world's plant genetic diversity has been lost since the 1900s, as farmers have shifted from local varieties to genetically

uniform, high-yielding crop breeds, thereby reducing the ability of crops to survive when faced with challenges.

### [Six scientists from Northeast get ICAR award for work in agriculture](#)

(NE Now News)

Six agricultural scientists from three states of Northeast- Arunachal Pradesh, Meghalaya and Tripura- received ICAR's National Award. The scientists have been awarded for their outstanding innovation in farming and boosting the agricultural economy in the region.

### [Odisha to credit Rs 1,040-crore loan to 7 lakh landless farmers](#)

(Deccan Herald)

The Odisha government has launched a scheme 'Balaram' to provide agricultural credit of Rs 1,040 crore to landless farmers who are facing hardships due to the coronavirus outbreak. Around seven lakh landless cultivators will be benefited from the programme in the next two years. The decision in this regard was taken at a high-level meeting presided over by chief secretary A K Tripathy. The landless farmers, who were not able to avail farm credit earlier, will get loans through joint liability groups which will act as 'social collateral', agriculture and farmers empowerment department secretary Sourabh Garg said. The scheme was designed in collaboration with the National Bank for Agriculture and Rural Development (NABARD), he said, adding that the village agriculture workers will implement the programme at the field level.

### [State intervention is needed to make farming economically and ecologically viable](#)

(The Indian Express)

In rural India, the COVID-related economic crisis should be addressed as a priority, not only because of its social dimension but also because of the need for structural reforms this crisis is revealing. However, the reforms announced by the Narendra Modi government are not necessarily the right ones. Farming in India has been made economically unviable due to the post-1991 policies. The priority, since then, has been given to industry as well as services. Middle-class consumers have been pampered by successive governments at the expense of farmers, who could not sell their crops at a fair price anymore. This unprecedented neglect of the agricultural sector has resulted in an equally unprecedented gap between the standard of living in the rural and urban parts of the country.

### [Can agriculture revive economy?](#)

(Hindustan Times)

A HT analysis of recently released National Account Statistics (NAS) data shows that real and nominal incomes need not move in the same direction for India's farmers. The NAS gives value of output for all crops at current and constant prices from 2011-12 to 2018-19. The value of output for crops can be taken as a proxy for farm incomes. In constant price terms, value of output of crops grew at the highest rate, 5.9%, in 2016-17. This was not the year of fastest growth in nominal farm incomes, though. The highest nominal income growth was 15.3% in 2013-14, when the real income growth was 4.9%. In 2012-13, when real incomes grew at 0.6%, nominal incomes grew at 11.6%. This is more than the 11.1% nominal income growth in 2016-17, when real growth was the highest.

### [International training on automation, robotics in agriculture held](#)

(The Tribune India)

A web-based online international training on 'Automation and robotics in agriculture' has been organised by the Department of Farm Machinery and Power Engineering at Punjab Agricultural University (PAU). The 10-day international training is being conducted under the aegis of the School of Natural Resource Management (SNRM), a project sponsored by the Indian Council of Agricultural Research (ICAR) under the umbrella of the National Higher Education Project-Centre of Advanced Agricultural Science and Technology (NAHEP-CAAST), which is operational at the PAU.

### [India's millets policy: is it headed in the right direction?](#)

(Mongabay)

The year 2023 will be observed as the International Year of Millets, following India's proposal to the Food and Agriculture Organization, which was approved in at the 160th session of the FAO Council in

December 2018. Through decades, the country has enjoyed a rich association with millets, though the Green Revolution favoured rice and wheat. Millets survived, thanks to cultural traditions, but came to be known as “coarse grains.” Today, millets are returning to farms and fields as a result of national and state-level initiatives. Termed as nutri-cereals, millets are finding favour among farmers for being climate-smart crops that are drought resistant, growing in areas with low rainfall and infertile soil.

### [Signs of farm 'revolution' in India as coronavirus prompts change](#)

(Reuters)

For more than two decades, Indian farmer Ravindra Kajal cultivated rice the way his forefathers had - every June he flooded his fields with water before hiring an army of farmhands to plant paddy seedlings. But a scarcity of workers this year because of the coronavirus forced Kajal to change. He irrigated the field just enough to moisten the soil and leased a drilling machine to directly sow seeds on his 9-acre (3.6-hectare) plot.

### [How Digitization Is Moving Indian Agriculture Forward in the Wake of COVID-19](#)

(Precision Ag)

Technological agricultural systems are the need of the hour which will bolster the growing agricultural sector. A free android app developed by the Indian government, Kisan Suvidha, now has about 100 million registered users. This app assists farmers with relevant information on the weather of the current day and next five days, market prices, dealers, agro advisories, and plant protection. It also has extreme weather alerts and market prices of the commodity in the nearest area and the maximum price in the state, as well as India. While Bhuvan, an Indian Geo-platform of ISRO, employs geospatial spatial technologies for gathering data useful for plantation, pest surveillance, and weather predictions.

### [Recognise women farmers to increase agricultural output and India's economy](#)

(Money Control)

Take the work carried out by the Maharashtra State Rural Livelihood Mission (MSRLM), the Mahila Arthik Vikas Mahamandal (MAVIM) and The Goat Trust. They have come together to promote an alternative community-based extension approach in Gondia, a tribal-dominated district in Maharashtra. Under the Pashu Sakhi (friends of animals) approach, women from the farming community are empowered to take a lead in generating both demand and supply of medical services for livestock. This is done by training them in veterinary services. The impact of the programme is three-fold: one, Pashu Sakhis get paid for their services; two, extension services are managed by community workers which builds upon the local knowledge base; and, three, these services benefit livestock owners, helping them improve productivity and incomes.

## **News from Around the World**

### [Video: Harvest on carbon-neutral oilseed rape grower's farm](#)

(Farmers Weekly)

Duncan Farrington, an arable farmer in Northamptonshire, who produced the world's first carbon- and plastic-neutral food product, has now completed harvest of his 36ha of rapeseed where the hybrid variety Azurite was grown. Mr Farrington grows and processes cold-pressed rapeseed oil, sold under Farrington Oils' Mellow Yellow brand name, on his 290ha Bottom Farm, near Hargrave. The oil, which is a UK top 15 oil, achieved carbon-neutral status in January this year, making Farrington Oils the first food company in the world to be certified by the United Nations.

### [Innovative UK agri-tech projects to benefit from £24 million investment](#)

(New Food Magazine)

The UK Department for Environment, Food and Rural Affairs (Defra) has announced that nine agri-tech projects are to benefit from £24 million Government funding. A project in Nottingham that converts carbon dioxide (CO<sub>2</sub>) into clean animal feed is one of the projects set to benefit. Nottingham-based consortium REACT-FIRST will receive over £2 million to generate clean, sustainable food for fish and poultry with an up to 75 percent smaller carbon footprint. The project will use its technology to

turn carbon dioxide from Drax Power's Selby power station into animal food with minimal water usage and without the need for arable farmland.

### [Industry reacts to report calling for massive cut in pesticide use](#)

(Farmers Weekly)

Industry leaders have given a mixed reaction to a report that calls for a massive reduction in pesticide use among UK farmers post Brexit. The Wildlife Trusts are calling on the government to cut pesticide use by more than 50% by 2030 – as good as, if not greater than, targets set by the European Union – to help reverse the decline in bees and other pollinating insects. The ambitious goal is contained in a new report, Reversing the Decline of Insects (PDF), written by Dave Goulson, professor of biology at the University of Sussex, who specialises in bumblebees.

### [China's Soybean Imports from Brazil Rise to Record In June](#)

(Successful Farming)

China's soybean imports in June from top supplier Brazil soared to a record high, according to customs data, driven by growing demand for soybeans as China's pig herd recovers after deadly outbreaks of African swine fever. The world's top soybean buyer brought in 10.51 million tonnes of the oilseed from the South American country in June, up 91% from 5.5 million tonnes in the previous year, data from the General Administration of Customs showed. The June figures were also up 18.6% from May imports from Brazil at 8.86 million tonnes.

### [Views diverge on benefits to Canadian agriculture from trade agreement](#)

(Moosejaw Today)

Comments on the just implemented Canada-United States-Mexico Agreement (CUSMA) vary from positive features for agriculture to regrets by agriculture. Farm Credit Canada economist James Bryan sees lots of benefits from the deal with 50 per cent of all Canadian agri-food trade covered by the agreement that came into effect on July 1. The trade agreement "largely preserved" the dispute mechanisms from NAFTA, giving fair and transparent procedures to resolve disputes. The agreement offers increased protection for proprietary information of food companies and recognizes distinct products like Canadian or Tennessee whiskey as well as promoting science-based regulations.

### [Canada and Ontario Supporting Farmers through Enhanced Insurance Protection](#)

(Ontario News)

The governments of Canada and Ontario are providing the best support possible to help farmers manage challenges beyond their control by enhancing AgriInsurance coverage for the 2020 growing season to include labour shortages due to COVID-19. Ontario's agriculture industry, specifically farms growing fruits and vegetables like tomatoes, melons and peaches, are labour intensive and highly dependent on seasonal agricultural workers. COVID-19 has interrupted regular flows of worker travel and has resulted in some gaps in labour availability. This could result in some crops being unharvested and financial loss for the agri-food industry.

### ['Cooling' Opportunity: Scaling Post-Harvest Technologies in Africa](#)

(Ventures Africa)

Amidst the uncertainty during the COVID-19 pandemic, matching food supply with demand is becoming a major problem, especially given the logistics bottlenecks arising from lockdowns and restricted movement. Fresh produce is accumulating at farms, resulting in food loss. In sub-Saharan Africa (SSA) alone, which unfortunately is home to over 230 million people suffering from chronic undernourishment according to the UN Food and Agriculture Organisation (FAO), 30-50 percent of food production is lost before it reaches the market due to problems ranging from improper use of inputs to lack of proper post-harvest storage, processing or transportation facilities.

### ['Falling crop yields may lead to higher food prices and rise in hunger'](#)

(Far Eastern Agriculture)

Free trade can prevent hunger caused by future shifts in climate patterns, according to a study published in Nature Climate Change focussed on the effects of trade on hunger as a result of climate-induced crop yield changes. Climate change has consequences for agriculture worldwide, with clear

differences between regions. Expectations are that sufficient food will remain available in the Northern hemisphere, but in regions such as sub-Saharan Africa or South Asia, falling crop yields may lead to higher food prices and a sharp rise in hunger.

### [Food security: How will we feed 9 billion mouths by 2037?](#)

(Biz Community)

With the human population currently at 7.8 billion people and predictions showing that the biomass material continues to increase yearly, we need to realise that the food demand will increase as countries develop and populations require better access to higher quality food, especially meat (protein). With the expected 9 billion people that will roam the earth in a mere 17 years, it is not so much a lack of resources (natural or otherwise) that is cause for concern but the impact of humans and their impact through intensification of farming, that is causing ecological degradation to a point of collapse and no return.

### [Nepal's overall imports have gone down but agriculture import continues to expand, hitting record Rs 250 billion](#)

(Kathmandu Post)

Nepal's agricultural goods import bills continue to expand, ballooning to an all-time high crossing Rs250 billion in the fiscal year 2019-20 as a result of the country's import-promoting policies, high production costs and change in consumer behaviour, among other factors. While the country's overall imports dropped by 15.63 percent to Rs1.19 trillion in the last fiscal year, ending mid-July, due to Covid-19 pandemic related restrictions, agricultural goods imports continued to increase. The share of agro products in the total import bill has swelled to 21 percent. The agricultural goods imports bill in 2009-10 amounted to Rs 44.43 billion. In 10 years, it has grown by almost six times. Agriculture economist Devendra Gauchan said that the government has been putting no restriction on imports.

### [Americans Receive Mystery Seeds in the Mail, Mostly from China](#)

(WSJ)

State officials and the U.S. Department of Agriculture are investigating reports that hundreds of residents have received seeds in the mail they didn't order. Agricultural officials across the U.S. have launched probes after residents received unsolicited packages of seeds that appear to have mostly originated from China. Mike Strain, Louisiana's commissioner of agriculture and forestry, which is investigating packages received in that state, said the USDA is also investigating the matter.

### [Maintain growth in agriculture to ensure food security: PM](#)

(The Daily Star)

Prime Minister Sheikh Hasina asked all concerned to keep up the growth, achieved in agriculture amid the coronavirus pandemic, to ensure food security alongside making efforts to achieve the sustainable development goals (SDGs). The premier added that two crore farmers have been provided with cards of agricultural input, while one crore farmers have opened bank accounts at taka 10.

## **New Research**

### [FANRPAN partnership to reinforce food systems in Africa](#)

(FANRPAN)

The Food Agriculture and Natural Resources Policy Analysis Network (FANRPAN) in partnership with the University of Pretoria and University of Leeds were granted £2 million to set up a Food Systems Research Network (FSNet-Africa). FSNet-Africa, funded by the Global Challenges Research Fund (GCRF) under the auspices of the UK Research and Innovation (UKRI) and the African Research Universities Alliance (ARUA) Research Excellence Partnership Programme, aims to utilise systems-based research methodologies to develop a new understanding of the African food system. This research will enhance understanding of the components of the food system, the interactions between these components, and ultimately the leverage points for food systems transformation.

### [A crop type dataset for consistent land cover classification in Central Asia](#)

(Nature)



Land cover is a key variable in the context of climate change. In particular, crop type information is essential to understand the spatial distribution of water usage and anticipate the risk of water scarcity and the consequent danger of food insecurity. This applies to arid regions such as the Aral Sea Basin (ASB), Central Asia, where agriculture relies heavily on irrigation. Here, remote sensing is valuable to map crop types, but its quality depends on consistent ground-truth data. Yet, in the ASB, such data are missing. Addressing this issue, we collected thousands of polygons on crop types, 97.7% of which in Uzbekistan and the remaining in Tajikistan. We collected 8,196 samples between 2015 and 2018, 213 in 2011 and 26 in 2008. Our data compile samples for 40 crop types and is dominated by “cotton” (40%) and “wheat”, (25%). These data were meticulously validated using expert knowledge and remote sensing data and relied on transferable, open-source workflows that will assure the consistency of future sampling campaigns.

### [Global hunger and climate change adaptation through international trade](#)

(Nature)

Under the current level of trade integration, climate change would lead to up to 55 million people who are undernourished in 2050. Without adaptation through trade, the impacts of global climate change would increase to 73 million people who are undernourished (+33%). Reduction in tariffs as well as institutional and infrastructural barriers would decrease the negative impact to 20 million (-64%) people. We assess the adaptation effect of trade and climate-induced specialization patterns. The adaptation effect is strongest for hunger-affected import-dependent regions. However, in hunger-affected export-oriented regions, partial trade integration can lead to increased exports at the expense of domestic food availability. Although trade integration is a key component of adaptation, it needs sensitive implementation to benefit all regions.

### [Limits of conservation agriculture to overcome low crop yields in sub-Saharan Africa](#)

(Nature)

Conservation agriculture (CA) has become a dominant paradigm in scientific and policy thinking about the sustainable intensification of food production in sub-Saharan Africa. Yet claims that CA leads to increasing crop yields in African smallholder farming systems remain controversial. Through a meta-analysis of 933 observations from 16 different countries in sub-Saharan African studies, we show that average yields under CA are only slightly higher than those of conventional tillage systems (3.7% for six major crop species and 4.0% for maize). Larger yield responses for maize result from mulching and crop rotations/intercropping. When CA principles are implemented concomitantly, maize yield increases by 8.4%. The largest yield benefits from CA occur in combination with low rainfall and herbicides. We conclude that although CA may bring soil conservation benefits, it is not a technology for African smallholder farmers to overcome low crop productivity and food insecurity in the short term.

### [UH and iconic watercress farm collaborate on sustainability research](#)

(Phys.Org)

University of Hawai'i (UH) at Mānoa researchers and Sumida Farm farmers published a study detailing their collaboration to study the past, present and future of the multigenerational farm which produces 70 percent of Hawai'i's watercress. The study highlights that relationships with the broader community have enhanced Sumida Farm's ability to adapt and innovate their farm practices in response to challenges and changing conditions.

### [GNDU takes a leap forward for agricultural research](#)

(The Tribune)

Guru Nanak Dev University has established a Centre for Agricultural Research and Innovation (CARI) under the Rashtriya Uchchattar Shiksha Abhiyan (RUSA-II). The major focus of the centre is to build a world-class ecosystem to promote research and find innovative and meaningful solutions in the field of agriculture. The centre has the mandate to integrate research and outreach education in agriculture, food systems and the environment to establish an ecologically and economically sustainable model. To expand its purpose, the Centre for Agriculture Research and Innovation and the Department of Agriculture of the university has jointly signed an MoU with the College of Agriculture and Natural Resources, National Chung Hsing University (NCHU), Taiwan.

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